WHAT IS CLAIMED IS:

SUB A1

1. A catheter system for ablating biological tissue at a target tissue site, comprising:

an elongated body member having proximal and distal ends;

a handle portion operably attached to the proximal end of the elongated body member;

an ablation device disposed at the distal portion of the body member and including at least one ablation element adapted to emit ablative energy therefrom; and

a means for steering the catheter proximate to the target tissue site, the steering means operably attached to the body member proximal to the ablation device,

wherein upon deflection of the steering means the ablation device is placed proximate and substantially parallel to the target tissue site whereby effective tissue ablation can be achieved.

2. The catheter of claim 1 wherein the steering means comprises:

a tubular member having proximal and distal ends and at least one lumen passing therethrough;

and a pull wire having proximal and distal ends and slidably disposed within the at least one lumen, the proximal end of the pull wire is operably attached to a deflecting means and the distal end of the pull wire is fixedly attached to the body member a predetermined distance distal from the distal end of the tubular member,

wherein activation of the deflecting means operates to deflect the steering means.

3. The catheter system of claim 2 wherein the pull wire is fixedly attached to the body member at a point of greatest lateral distance with respect to the distal end of the tubular member whereby the mechanical advantage of the system is enhanced.

4. The catheter system of claim 3 wherein the pull wire is fixedly attached to the body member at a radial position of about 180° with respect to the radial position of the distal end of the tubular member.

5. The catheter system of claim 3, wherein the pull wire is fixedly attached to the body member at a radial position of about 0° with respect to the radial position of the distal end of the tubular member.

6. The catheter system of claim 3 wherein the tubular member extends the length of the elongated body member, fixedly attached to the handle portion whereby deflection forces are transmitted therethrough, minimizing tissue damage along the length of the catheter system.

7. The catheter system of claim 2, wherein a portion of the elongated body member proximal to the distal end of the tubular member is resilient whereby the distal portion of the body member returns to a predetermined position when deflectional forces are removed.

8. The catheter system of claim 2, wherein the steering means further comprises: a deflectable member means for returning the steering means to an undeflected orientation after removal of deflectional forces; and an attachment means for fixedly attaching the pull wire to the distal portion of the body member.

9. The catheter system of claim 8, wherein the deflectable member means has a cross-sectional geometry adapted to limit deflection to substantially one geometric plane.

10. The catheter system of claim 9, wherein the cross-sectional geometry is rectangular.

11. The catheter system of claim 8, wherein the deflectable member means has a circular cross-sectional geometry.

12. The catheter system of claim 9, wherein the attachment means is a thin ring member operably disposed between the deflectable member means and the distal end of the pull wire.

13. The catheter system of claim 12, wherein the ring member is attached to the distal end of the deflectable member means.

14. The catheter system of claim 9, wherein the attachment means is a beam member operably disposed between the deflectable member means and the distal end of the pull wire.

15. The catheter system of claim 9, wherein the attachment means is a semicircular member operably disposed between the deflectable member means and the distal end of the pull wire.

16. The catheter system of claim 12, wherein the ring member is a 15TW metallic hypotube having a length of about 1 mm.

17. The catheter system of claim 12, wherein the ring member is compress fit about the body member.

18. The catheter system of claim 12, wherein the distal end of the tubular member is fixedly attached to the body member and the ring member is configured to allow the body member to translate therethrough during activation of the deflection means.

19. The catheter system of claim 8 wherein the steering means further comprises an anchoring means operably disposed between the deflectable member means and the tubular member.

20. The catheter system of claim 19 wherein the steering system is arranged such that the pull wire is substantially parallel to a longitudinal axis of the body member during use, whereby abrasive wear is minimized.

21. The catheter system of claim 8, wherein the at least one ablation element is selected from the group consisting of: RF electrode, thermally conductive tubule, microwave antenna, chemical aspirator, optical fiber or fiber bundle, and ultrasound transducer.

22. The catheter system of claim 8, wherein the emitted ablative energy is one or more energy sources selected from the group consisting of: radio frequency, cryogenic, microwave, chemical, laser, and ultrasound.

23. The catheter system of claim 5, wherein the steering means further comprises a deflectable member means for returning the steering means to an undeflected orientation after removal of deflectional forces, the pull wire fixedly attached to the deflectable member means a predetermined distance from the distal end of the tubular member.

24. The catheter system of claim 23, wherein the predetermined distance is at least half the length of the deflectable member means.

25. The catheter system of claim 24, further comprising an anchoring means operably disposed between the deflectable member means and the tubular member, the tubular member and the deflectable member means being radially positioned 180° with respect to each other,

wherein the mechanical advantage of the system is enhanced.

26. A method of ablating biological tissue, comprising the steps of

providing an ablation catheter system comprising:

an ablation device comprising at least one ablation element adapted to emit ablative energy therefrom; and

a means for steering the catheter system toward a target tissue site, the steering means disposed proximal to the ablative device;

advancing and steering the catheter to a point proximate the target tissue site;

positioning the ablative device proximate and substantially parallel to the target tissue site; and

applying ablative energy to the at least one ablation element.

27. The method of claim 26, wherein the ablation catheter system further comprises a flexible member operably disposed between the ablative device and the steering means and the step of positioning the ablative device further comprises the steps of deflecting the distal portion of the ablation catheter system until the ablative device is proximate and parallel to a portion of the target tissue site, the step of ablating resulting in the formation of one lesion along a desired lesion path.

28. The method of claim 27, further comprising the step of translating the ablative device along the desired lesion path, wherein the step of ablating results in the formation of an additional lesion along the desired lesion path.

29. The method of claim 27, wherein the additional lesion overlaps an existing lesion whereby a long continuous lesion is formed.

30. The method of claim 29, wherein the step of translating the ablative device is repeated until a long continuous lesion is formed upon the entire desired lesion path.

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